

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listing of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) An image pickup device comprising:

a photoelectric sensor of interlace type having pixels arranged in the vertical and horizontal directions which converts the light focused on the pixels to electric pixel signals, an effective pixel number of said photo electric sensor in a vertical direction is twice or more than an effective number of scanning lines in a television signal standard, the pixel signals accumulated in each of the pixels are outputted with interlace by subsampling the pixel signals for every one line in a first signal read mode, and a sum of the pixel signals in the two pixels adjoining each other in the vertical direction are sequentially outputted with non-interlace in a second signal read mode, the combination of two pixels adjoining each other in the vertical direction in the second signal read mode are same every time when a sum of the pixel signals are outputted;

an interlace/non-interlace converter which converts the signals with the interlace, which are output from the photoelectric sensor in the first signal read mode, to a non-interlaced signal;

a signal processor which generates a first video signal by converting the non-interlaced signal converted by the interlace/non-interlace converter into a specified image format in the first signal read mode, and generating a second video signal by converting the signal output by the photoelectric sensor into the specified image format;

a rate converter which converts a number of the output images of the second video signal per a unit time into another number which is more than the number of output images before conversion, from a non-interlaced scan into an interlaced scan, and converts a number of lines of the output images of the second video signal into another number which is less than the number of lines before the conversion and which is approximately equal to the

number of lines of a field displayed on a monitor, wherein the monitor displays plural fields with interlace;

an encoder which generates a first or second image data by compressing the first or second video signals output from the signal processor;

a memory device which memorizes the first or second image data output from the encoder; and

a decoder which reproduces the first video signal by decoding the first image data memorized in the memory device.

2. (Previously Presented) The image pickup device of Claim 1, wherein said interlace/non-interlace converter and said rate converter comprise a memory that stores said signals output from the photoelectric sensor, and a memory controller that controls writing and reading addresses and timings.

3. (Previously Presented) The image pickup device of Claim 1, wherein said first video signal is a still image signal representing one still image, and said second video signal is a motion image signal having a plurality of continuous images of a motion picture.

4. Canceled

5. (Original) The image pickup device of Claim 1, wherein said first and second image data are still image data each representing one still image.

6. (Previously Presented) The image pickup device of Claim 1, wherein said arrangement of said pixels on said photoelectric sensor has a cycle of units of two rows in the vertical direction and four lines in the horizontal direction, the pixels of the first color and the pixels of the second color are arranged alternately in the first lines, the pixels of the third color and the pixels of the fourth color are arranged alternately in the second lines, the pixels of the second color and the pixels of the first color are arranged alternately in the third lines,

and the pixels of the third color and the pixels of the fourth color are arranged alternately in the fourth lines.

7. (Original) The image pickup device of Claim 6, wherein said first color is magenta, said second color is green, said third color is cyan, and said fourth color is yellow.

8. (Original) The image pickup device of Claim 6, wherein said first color is red, said second color is green, said third color is blue, and said fourth color is green.

9. (Previously Presented) The image pickup device of Claim 6, wherein an effective pixel number of said photoelectric sensor in a vertical direction approximates multiplication by an integer of an effective number of scanning lines in a television signal standard.

10. (Original) The image pickup device of Claim 9, wherein said effective pixel number of said photoelectric sensor is from 920 to 1020.

11. (Currently Amended) An image pickup device comprising:
a photoelectric sensor of interlace type having pixels arranged in vertical and horizontal directions which converts the light focused on the pixels to electric pixel signals, an effective pixel number of said photo electric sensor in a vertical direction is twice or more than an effective number of scanning lines in a television signal standard, the pixel signals accumulated in each pixels are outputted with interlace by subsampling the pixel signals for every one line in a first signal read mode, and a sum of the pixel signals in the two pixels adjoining each other in the vertical direction are sequentially outputted with non-interlace in a second signal read mode, the combination of two pixels adjoining each other in the vertical direction in the second signal read mode are same every time when a sum of the pixel signals are outputted;

an interlace/non-interlace converter which converts the signals with the interlace, which are output from the photoelectric sensor in the first signal read mode, to a non-interlaced signal;

a signal processor which generates a first video signal by converting the non-interlaced signal converted by the interlace/non-interlace converter into a specified image format in the first signal read mode, and generating a second video signal by converting the signal output by the photoelectric sensor into the specified image format;

a rate converter which converts a number of the output images of the second video signal per a unit time into another number which is more than the number of the output images before conversion, from a non-interlaced scan into an interlaced scan, and converts a number of lines of the output images of the second video signal into another number which is less than the number of lines before conversion and which is approximately equal to the number of lines of a field displayed on a monitor, in which the monitor displays plural fields with interlace;

an encoder which generates a first or second image data by compressing data volume in frames of the first or second video signals output from the signal processor by a first compressing method, and that generates a third image data by compressing data volume in frames of the second video signals output from the signal processor by a second compressing method;

a memory device which memorizes the first or second image data and the third image data that are output from the encoder; and

a decoder which reproduces the first or second video signal and a third video signal by decoding the first or second image data and the third image data that are memorized in the memory device.

12. (Previously Presented) The image pickup device of Claim 11, wherein said interlace/non-interlace converter and said rate converter comprise a memory for storing said signals output from the photoelectric sensor, and a memory controller that controls writing and reading addresses and timings.

13. (Previously Presented) The image pickup device of Claim 11, wherein said first video signal is a still image signal representing one still image, and said second video signal is a motion image signal having a plurality of continuous images of a motion picture.

14. (Previously Presented) The image pickup device of Claim 13, wherein an effective pixel number of said photoelectric sensor in a vertical direction which generates the motion picture approximates multiplication by an integer of the effective number of scanning lines in the television signal standard.

15. (Previously Presented) The image pickup device of Claim 11, wherein said first and second image data are still image data each representing one still image, and said third image data is motion image data representing a plurality of continuous images of a motion picture.

16. (Previously Presented) The image pickup device of Claim 11, wherein said arrangement of said pixels on said photoelectric sensor has a cycle of units of two rows in the vertical direction and four lines in the horizontal direction, the pixels of the first color and the pixels of the second color are arranged alternately in the first lines, the pixels of the third color and the pixels of the fourth color are arranged alternately in the second lines, the pixels of the second color and the pixels of the first color are arranged alternately in the third lines, and the pixels of the third color and the pixels of the fourth color are arranged alternately in the fourth lines.

17. (Original) The image pickup device of Claim 16, wherein said first color is magenta, said second color is green, said third color is cyan, and said fourth color is yellow.

18. (Original) The image pickup device of Claim 16, wherein said first color is red, said second color is green, said third color is blue, and said fourth color is green.

19. Canceled.

20. (Original) The image pickup device of Claim 19, wherein said effective pixel number of said photoelectric sensor is from 920 to 1020.